

REMARKS

This is in response to the Office Action that was filed on July 28, 2006. Claims 17 and 23-27 are pending in the application. Claim 17 is amended to clarify that R¹¹ is an alkyl group of 1-10 carbon atoms or an aryl group of 6-10 carbon atoms. The specification teaches that R¹¹ is an alkyl group or an aryl group having 1-10 carbon atoms. Specification, page 5, lines 18-19. As the Examiner recognizes, aryl groups cannot have 1 carbon atom, but alkyl groups can have as few as 1 carbon atom. Therefore it is clear from the context that the limitation of “1-10 carbon atoms” must apply to both alkyl groups and aryl groups. The Examiner himself points out that “the aryl group contains at least six-carbon ring”. Persons skilled in the art would recognize that the meaning of the language in question (using the Examiner’s minimum of 6 carbon atoms for aryl groups) is “R¹¹ is an alkyl group of 1-10 carbon atoms or an aryl group of 6-10 carbon atoms”. Accordingly, no new matter is introduced by this Amendment. Entry of this Amendment, in order to place the application into condition for allowance or into better condition for appeal, is earnestly solicited.

Interview

Applicants wish to express their gratitude to Examiner Thea for the courtesies extended to their representative, Richard Gallagher, in connection with a telephonic interview on January 9, 2006. During the interview, the rejection under 35 U.S.C. §103(a) over the Takeuchi or Nakamura references, each in view of the combination of the Cerquone and EP ‘196 and Shoei references, was discussed. It was explained that both Takeuchi and Nakamura fail to disclose the claimed compounds represented by formula (1) of Applicants’ claim 17. It was also explained that the rejection of record involves an improper combination of references, particularly because the Examiner proposes to combine the single-sheet image formation system of the EP ‘196 reference with the two-sheet image formation system of the primary references, Takeuchi and Nakamura – a combination that (improperly) change the principle of operation of the Takeuchi and Nakamura technology. The Examiner acknowledged that he was familiar with the case law that prohibits combinations of references which change the principle of operation of the technology involved. The Examiner agreed to carefully reconsider the rejection of record in view of this principle.

Rejection of Claims 17, 23-27, and 30 under 35 U.S.C. 112 (paragraph one)

On pages 2-3 of the Office Action, claims 17, 23-27, and 30 are stated to be rejected under 35 U.S.C. 112, paragraph one. Claim 30 is not pending in this application. The Examiner argues that there is inadequate written description for the recitation in claim 17 of the clause “single sheet of the photothermographic material without any functional layer constituting a separate member”. (Examiner’s emphasis.) Support can be found in lines 14-19 on page 91 of the specification, which teaches (emphasis supplied):

The photosensitive material of the invention is preferably able to form an image by only a single sheet of the photosensitive material. That is, it is preferred that a functional layer necessary to form an image such as an image-receiving layer does not constitute a separate member.

The Examiner’s attention is drawn to the emphasized portions of the quotation from the disclosure, which echo the text emphasized by the Examiner almost word for word. The Examiner has not made a *prima facie* case that the language in question lacks basis in Applicants’ written description.

Rejection of Claims 17, 23-27, and 30 under 35 U.S.C. §112 (paragraph two)

On page 3 of the Office Action, claims 17, 23-27, and 30 are stated to be rejected under 35 U.S.C. 112, paragraph two. Claim 30 is not pending in this application. The Examiner raises two issues under this heading.

Stating that the specification discloses an image receiving layer in a photothermographic material which coexists with the material useful in the formation of a dye image, the Examiner argues that it is unclear whether Applicants are claiming the material without the receiving layer or a different material that contains the receiving layer. Under the second paragraph of 35 U.S.C. 112, the inquiry is whether the claims particularly point out and distinctly claim subject matter. The claims herein clearly recite a photothermographic material, a single sheet of which can form an image without a functional layer constituting a separate member. Whether or not the specification discloses additional subject matter, the fact remains that claims 17 and 23-27 particularly point out and distinctly claim subject matter which Applicants regard as their invention.

The Examiner argues that the claim language “R¹¹ is an alkyl group or an aryl group having up to 10 carbon atoms” is unclear with respect to whether the both groups are limited to a

maximum of 10 carbon atoms or only the aryl group is so limited. The specification teaches that R¹¹ is an alkyl group or an aryl group having 1-10 carbon atoms. Specification, page 5, lines 18-19. As the Examiner recognizes, aryl groups cannot have 1 carbon atom, but alkyl groups can have as few as 1 carbon atom. Therefore it is clear from the context that the limitation of “1-10 carbon atoms” must apply to both alkyl groups and aryl groups. The Examiner alleges that “the aryl group contains at least six-carbon ring”. For the sake of brevity, the claims had recited that “R¹¹ is an alkyl group or an aryl group having up to 10 carbon atoms”. Persons skilled in the art would construe that language as meaning, using the Examiner’s minimum of 6 carbon atoms for aryl groups, that “R¹¹ is an alkyl group of 1-10 carbon atoms or an aryl group of 6-10 carbon atoms”. The expanded clarifying language is now recited in independent claim 17.

It is respectfully submitted that the claims in their current form satisfy the requirements of the second paragraph of 35 U.S.C. 112.

Rejection of Claims 17-22 and 25-29 under 35 U.S.C. §103(a)

Claims 17-22 and 25-29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over either Takeuchi or Nakamura, each in view of the combination of Cerquone and EP ‘196 and Shoei. Office Action, pages 4-5. Claims 18-22 and 28-29 are not pending in this application.

Different compounds

Takeuchi and Nakamura both fail to disclose the claimed compounds represented by formula (1) of pending claim 17. At page 4 of the Office Action, the Examiner makes specific reference to compounds I-21 and I-22 of Takeuchi. The Examiner appears to believe that the noted compounds I-21 and I-22 fall within the claimed formula (1). This is incorrect. Compound I-21 does not have a quinazoline group – instead it has a pterin group. Compound I-22 does not have an aryl group having up to 10 carbon atoms – instead it has an aryl group having 19 carbon atoms. Also at page 4 of the Office Action, the Examiner makes specific reference to compounds (37) and (43) in Nakamura. Compound (37) does not have an aryl group having up to 10 carbon atoms – instead it has an aryl group having 26 carbon atoms. Compound (43) does not have an alkyl group having up to 10 carbon atoms – instead it has an alkyl group having 20 carbon atoms. The compounds represented by the claimed formula (1) are likewise not disclosed in the other references – i.e., Cerquone, EP ‘196, and Shoei.

Improper combination

Claim 17 requires that an image can be formed by only a single sheet of the photothermographic material without a functional layer constituting a separate member. Of the five references cited by the Examiner, the only reference which discloses a photosensitive material capable of forming an image by only a single sheet of the photosensitive material is EP '196.

Takeuchi teaches that "Warm water at 40°C was applied to the surface of the thus exposed light-sensitive materials, in an amount of 15 ml/m², and then after each processing sheet (image-receiving material) and each film surface were brought together, they were subjected to heat development at 80°C for 30 sec using a heat drum. After the processing, when the image-receiving material was removed, cyan, magenta, and yellow color images were obtained clearly on the side of the light-sensitive material corresponding to the filters used for the exposure." Column 86, lines 32-42, emphasis supplied.

Nakamura states that "Warm water at 40°C was applied to each surface of the exposed light-sensitive materials, in an amount of 15 ml/m²; the light-sensitive material and the processing sheet were put together with the coated surfaces in contact with each other; they were heated at 83°C for 30 sec using a heat drum, to carry out heat development. After the processing, the image-receiving material was peeled off, to obtain respectively bright cyan, magenta, and yellow color images on the side of the light-sensitive material, which images correspond to each filter used to exposure." Column 131, lines 31-38, emphasis supplied.

Cerquone teaches that "The photothermographic element was permitted to cool and then laminated to a methanol moistened mordant image receiver. The image receiver used was a transparent poly(ethylene terephthalate) film support coated respectively with a dye mordant layer and then a layer of titanium dioxide. The photothermographic element was permitted to remain in contact with the image receiver for 30 seconds without heating the combination." Column 15, lines 17-55, emphasis supplied.

Shoei states that "An image-receiving member (1) was prepared by coating a tetrahydrofuran solution of polyvinyl chloride ... on photographic baryta paper to attain a polyvinyl chloride deposit of 12 g/m². Each of the heat-developable light-sensitive materials previously prepared was given an exposure of 1,600 C.M.S. through a step wedge, superposed on the image-receiving member, and thermally developed at 150°C for 1 minute in a thermal developer (Developer Module 277 of 3M). Immediately thereafter, the light-sensitive material

was stripped from the image-receiving member, which had carried a negative image of magenta color." Column 74, lines 51-64, emphasis supplied.

Only EP '196 discloses single-sheet image formation photosensitive material.

The Examiner argues on page 5 of the Office Action that it is obvious "to use bisphenol [sic, bisphenol] reducing agent [of] EP '196 as reducing agent for silver ions such as taught in Cerquone in combination with the color developer taught in either Takeuchi or Nakamura with an expectation of producing to [sic] a material having desired dye image". Applicants disagree.

Takeuchi and Nakamura are directed to a two-sheet image formation system, whereas EP '196 is directed to a single-sheet image formation system. Takeuchi and Nakamura require dye transfer, whereas EP '106 requires suppression of dye transfer. These systems are totally different from each other. One of ordinary skill in the art would not be motivated to combine the noted references directed to two-sheet image-formation system with a reference directed to single-sheet image-formation system.

Since the Examiner's proposed combination of the single-sheet image formation system of EP '196 with the two-sheet image formation system of Takeuchi and Nakamura would change the principle of operation of the Takeuchi and Nakamura technology, the Examiner may not properly combine EP '196 with Takeuchi and Nakamura. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); MPEP 2143.01.

Summary and conclusion

The references relied upon by the Examiner would therefore not motivate a person of ordinary skilled in the art to specifically select the compounds represented by the claimed formula (1) for use in a single-sheet image-formation system. The rejection is thus not sustainable, and should be withdrawn.

Rejection of Claims 23-24 under 35 U.S.C. §103(a)

Claims 23-24 stand rejected under 35 USC 103(a) as being unpatentable over Takeuchi or Nakamura "as applied ... above" (which presumably means in view of the combination of Cerquone and EP '196 and Shoei) in further view of JP '934. Office Action, page 5. The impropriety of combining EP '196 with Takeuchi and Nakamura is discussed at length above. The additional citation of JP '934 does not cure the defect in the principle rejection. This ancillary rejection also should be withdrawn.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at the telephone number of the undersigned below, to conduct a further interview in order to expedite the prosecution of the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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